

ABSTRACT

A combustion chamber assembly for use in a diesel engine, includes a combustion chamber having a lower portion and an upper portion and being defined in a crown of a piston, the combustion chamber lower portion being formed of a plurality of spherical and annular surfaces having smooth annular transitions; and the combustion chamber upper portion having at least one step defining a flat surface and defining a transition between the lower portion and the crown. A piston incorporating the combustion chamber assembly and a method for forming the combustion chamber assembly are further included.